SEQUENCE LISTING

(1) GENERAL INFORMATION

(i) APPLICANT: BILLING-MEDEL, PATRICIA
COHEN, MAURICE
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HODGES, STEVEN C.
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RUSSELL, JOHN C.
SCHEFFEL, CHRISTI
STROUPE, STEPHEN D.
YU, HONG

(ii) TITLE OF THE INVENTION: REAGENTS AND METHODS USEFUL FOR DETECTING DISEASES OF THE BREAST

(iii) NUMBER OF SEQUENCES: 27

(iv) CORRESPONDENCE ADDRESS:
(A) ADDRESSEE: Abbott Laboratories
(B) STREET: 100 Abbott Park Road
(C) CITY: Abbott Park
(D) STATE: IL
(E) COUNTRY: USA
(F) ZIP: 60064-3500

(v) COMPUTER READABLE FORM:
(A) MEDIUM TYPE: Diskette
(B) COMPUTER: IBM Compatible
(C) OPERATING SYSTEM: DOS
(D) SOFTWARE: FastSEQ for Windows Version 2.0

(vi) CURRENT APPLICATION DATA:
(A) APPLICATION NUMBER:
(B) FILING DATE:
(C) CLASSIFICATION:

(vii) PRIOR APPLICATION DATA:
(A) APPLICATION NUMBER: 08/879,354
(B) FILING DATE: 20-JUN-1997

(viii) ATTORNEY/AGENT INFORMATION:
(A) NAME: Becker, Cheryl L.
(B) REGISTRATION NUMBER: 35,441
(C) REFERENCE/DOCKET NUMBER: 6120.US.P1

(ix) TELECOMMUNICATION INFORMATION:
(A) TELEPHONE: 847/935-1729
(B) TELEFAX: 847/938-2623
(C) TELEX:

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 236 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

```
GACGCCCAGT GACCTGCCGA GGTCGGCAGC ACAGAGCTCT GGAGATGAAG ACCCTGTTCC    60
TGGGTGTCAC GCTCGGCCTG GCCGCTGCCC TGTCCTTCAC CCTGGAGGAG GAGGATATCA   120
CAGGGACCTG GTACGTGAAG GCCATGGTGG TCGATAAGGA CTTTCCGGAG GACAGGAGGC   180
CCAGGAAGGT GTCCCCAGTG AAGGTGACAG CCCTGGGCGG TGGGAAGTTG GAAGCC       236
```

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 245 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

```
GGATATCACA GGGACCTGGT ACGTGAAGGC CATGGTGGTC GATAAGGACT TTCCGGAGGA    60
CAGGAGGCCC AGGAAGGTGT CCCCAGTGAA GGTGACAGCC CTGGGCGGTG GGAAGTTGGA   120
AGCCACGTTC ACCTTCATGA GGGAGGATCG GTGCATCCAG AAGAAAATCC TGATGCGGAA   180
GACGGAGGAG CCTGGCAAAT ACAGCGCCTA TGGGGGCAGG AAGCTCATGT ACCTGCAGGA   240
GCTGC                                                               245
```

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 337 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

```
GGGGGAGAAG GACTTTATTT GGAGTCAGGT GGGTGGGAGC AGGGAAGGGT CATGGCTGGA    60
GGGTAGGTCC AGGTGGTCCG GGCTCTGTGT CTGGTGGTAG GGTGGGCTCT GGAGGTGCAG   120
ACCCGGGGGC TGCCTAGTGT TCGGGAACGC AGCTTCCCGT CTGCAGGGGC GTGAAAATGT   180
CCTCCTCCGA GAGTCCCTTG CGCTGCACCA ATTTCTTAAA TTCTTCCAGG GCCTCCCGGT   240
TGGTATCAGA ATTCCTACCC ACAAGCTTTC CCATGTGGAG CAGGCCCCCA TGGTGCTGGT   300
CTTTGCAGTA AAAGATGTAG TGGTCCCTCC TGGGCAG                            337
```

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 692 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

```
GACGCCCAGT GACCTGCCGA GGTCGGCAGC ACAGAGCTCT GGAGATGAAG ACCCTGTTCC    60
TGGGTGTCAC GCTCGGCCTG GCCGCTGCCC TGTCCTTCAC CCTGGAGGAG GAGGATATCA   120
CAGGGACCTG GTACGTGAAG GCCATGGTGG TCGATAAGGA CTTTCCGGAG GACAGGAGGC   180
CCAGGAAGGT GTCCCCAGTG AAGGTGACAG CCCTGGGCGG TGGGAAGTTG GAAGCCACGT   240
```

TCACCTTCAT GAGGGAGGAT CGGTGCATCC AGAAGAAAAT CCTGATGCGG AAGACGGAGG 300
AGCCTGGCAA ATACAGCGCC TATGGGGGCA GGAAGCTCAT GTACCTGCAG GAGCTGCCCA 360
GGAGGGACCA CTACATCTTT TACTGCAAAG ACCAGCACCA TGGGGGCCTG CTCCACATGG 420
GAAAGCTTGT GGGTAGGAAT TCTGATACCA ACCGGGAGGC CCTGGAAGAA TTTAAGAAAT 480
TGGTGCAGCG CAAGGGACTC TCGGAGGAGG ACATTTTCAC GCCCCTGCAG ACGGGAAGCT 540
GCGTTCCCGA ACACTAGGCA GCCCCCGGGT CTGCACCTCC AGAGCCCACC CTACCACCAG 600
ACACAGAGCC CGGACCACCT GGACCTACCC TCCAGCCATG ACCCTTCCCT GCTCCCACCC 660
ACCTGACTCC AAATAAAGTC CTTCTCCCCC CA 692

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 692 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

GACGCCCAGT GACCTGCCGA GGTCGGCAGC ACAGAGCTCT GGAGATGAAG ACCCTGTTCC 60
TGGGTGTCAC GCTCGGCCTG GCCGCTGCCC TGTCCTTCAC CCTGGAGGAG GAGGATATCA 120
CAGGGACCTG GTACGTGAAG GCCATGGTGG TCGATAAGGA CTTTCCGGAG GACAGGAGGC 180
CCAGGAAGGT GTCCCCAGTG AAGGTGACAG CCCTGGGCGG TGGGAAGTTG GAAGCCACGT 240
TCACCTTCAT GAGGGAGGAT CGGTGCATCC AGAAGAAAAT CCTGATGCGG AAGACGGAGG 300
AGCCTGGCAA ATACAGCGCC TATGGGGGCA GGAAGCTCAT GTACCTGCAG GAGCTGCCCA 360
GGAGGGACCA CTACATCTTT TACTGCAAAG ACCAGCACCA TGGGGGCCTG CTCCACATGG 420
GAAAGCTTGT GGGTAGGAAT TCTGATACCA ACCGGGAGGC CCTGGAAGAA TTTAAGAAAT 480
TGGTGCAGCG CAAGGGACTC TCGGAGGAGG ACATTTTCAC GCCCCTGCAG ACGGGAAGCT 540
GCGTTCCCGA ACACTAGGCA GCCCCCGGGT CTGCACCTCC AGAGCCCACC CTACCACCAG 600
ACACAGAGCC CGGACCACCT GGACCTACCC TCCAGCCATG ACCCTTCCCT GCTCCCACCC 660
ACCTGACTCC AAATAAAGTC CTTCTCCCCC CA 692

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 68 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

AGCTCGGAAT TCCGAGCTTG GATCCTCTAG AGCGGCCGCC GACTAGTGAG CTCGTCGACC 60
CGGGAATT 68

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 68 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

AATTAATTCC CGGGTCGACG AGCTCACTAG TCGGCGGCCG CTCTAGAGGA TCCAAGCTCG 60
GAATTCCG 68

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 24 base pairs
(B) TYPE: nucleic acid

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

AGCGGATAAC AATTTCACAC AGGA 24

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

TGTAAAACGA CGGCCAGT 18

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

ATCCTGATGC GGAAGACG 18

(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

TATCACAGGG ACCTGGTACG 20

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

GCTGTATTTG CCAGGCTC 18

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

AAAATGTCCT CCTCCGAGAG 20

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 26 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

TTTTTTTTTT TTTTTTTTTT TTTTTG 26

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 19 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

AGTTGGAAGC CACGTTCAC 19

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 19 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

CCCATAGGCG CTGTATTTG 19

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 19 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

AGTTGGAAGC CACGTTCAC 19

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 24 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

TGGTGCTGGT CTTTGCAGTA AAAG 24

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

CAAATACAGC GCCTA 15

(2) INFORMATION FOR SEQ ID NO:20:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 23 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

CCCAGTCACG ACGTTGTAAA ACG 23

(2) INFORMATION FOR SEQ ID NO:21:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 28 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

GCGGCCGCCG TGTTCGGGAA CGCAGCTT 28

(2) INFORMATION FOR SEQ ID NO:22:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 170 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: None

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

```
Met Lys Thr Leu Phe Leu Gly Val Thr Leu Gly Leu Ala Ala Ala Leu
 1               5                  10                  15
Ser Phe Thr Leu Glu Glu Glu Asp Ile Thr Gly Thr Trp Tyr Val Lys
            20                  25                  30
Ala Met Val Val Asp Lys Asp Phe Pro Glu Asp Arg Arg Pro Arg Lys
        35                  40                  45
Val Ser Pro Val Lys Val Thr Ala Leu Gly Gly Gly Lys Leu Glu Ala
    50                  55                  60
```

```
Thr Phe Thr Phe Met Arg Glu Asp Arg Cys Ile Gln Lys Lys Ile Leu
65                  70                  75                  80
Met Arg Lys Thr Glu Glu Pro Gly Lys Tyr Ser Ala Tyr Gly Gly Arg
                85                  90                  95
Lys Leu Met Tyr Leu Gln Glu Leu Pro Arg Arg Asp His Tyr Ile Phe
            100                 105                 110
Tyr Cys Lys Asp Gln His His Gly Gly Leu Leu His Met Gly Lys Leu
        115                 120                 125
Val Gly Arg Asn Ser Asp Thr Asn Arg Glu Ala Leu Glu Glu Phe Lys
    130                 135                 140
Lys Leu Val Gln Arg Lys Gly Leu Ser Glu Glu Asp Ile Phe Thr Pro
145                 150                 155                 160
Leu Gln Thr Gly Ser Cys Val Pro Glu His
                165                 170
```

(2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: None

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

```
Leu Glu Glu Glu Asp Ile Thr Gly Thr Trp Tyr Val Lys Ala Met Val
 1               5                  10                  15
Val Asp Lys Asp Phe Pro Glu Asp Arg Arg Pro Arg Lys Val Ser
            20                  25                  30
```

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 28 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: None

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

```
Pro Val Lys Val Thr Ala Leu Gly Gly Gly Lys Leu Glu Ala Thr Phe
 1               5                  10                  15
Thr Phe Met Arg Glu Asp Arg Cys Ile Gln Lys Lys
            20                  25
```

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 26 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: None

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

```
Ile Leu Met Arg Lys Thr Glu Glu Pro Gly Lys Tyr Ser Ala Tyr Gly
 1               5                  10                  15
Gly Arg Lys Leu Met Tyr Leu Gln Glu Leu
            20                  25
```

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 8 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: None

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

```
Asp Tyr Lys Asp Asp Asp Asp Lys
 1               5
```

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 21 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: None

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

```
Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Met His Thr Glu His
 1               5                   10                  15
His His His His His
            20
```